

## **AMENDMENTS TO THE CLAIMS**

### **In the claims**

- 5 1. (currently amended) A computer program product comprising a computer-  
readable medium having stored thereon instructions for causing a computer to  
perform a process ~~An operations, management, capacity, and services (OMCS)~~  
~~tool~~ for assessing business solutions comprising alternative network  
architectures and management processes for a telecommunications network, the  
10 ~~[[tool]]~~ computer program product comprising instructions for:
- (a) ~~receiving means for inputting~~ data and options for plurality of network  
architectures, network management processes, and service and customer  
management processes ~~by an analyst~~;
- (b) ~~means for~~ engineering the plurality of network architectures based on the  
15 data and options of (a);
- (c) ~~means for~~ determining suppliers' equipment costs for said plurality of  
network architectures;
- (d) ~~means for~~ engineering the network management processes and the service  
and customer management processes, based on the data and options of (a),  
20 for managing said plurality of network architectures;
- (e) ~~means for~~ determining suppliers' management processes costs for the  
network management processes and the service and customer management  
processes;
- (f) ~~means for~~ validating and calibrating the data and options and the costs for  
25 the plurality of network architectures, the network management processes,  
and the service and customer management processes;
- (g) ~~means for~~ determining, based on the costs of the plurality of network  
architectures and the network management processes and the service and  
customer management processes, business parameters for the business  
30 solutions; and
- (h) ~~means for~~ storing ~~[[or]]~~ and displaying the business parameters for the  
business solutions for the telecommunications network.

2. (currently amended) The ~~[[tool]]~~ computer program product as described in claim 1, wherein the ~~means instructions~~ (a) comprise instructions for causing the computer to receive ~~comprises means for inputting~~ traffic data; customer data; and financial and labor data.
3. (currently amended) The ~~[[tool]]~~ computer program product as described in claim 2, wherein the ~~means instructions~~ (a) further ~~comprising~~ comprise instructions for causing the computer to:
- ~~receive means for inputting~~ technology options which comprise at least one of: time division multiplexing (TDM), asynchronous transfer mode (ATM), frame relay (FR), Internet protocol (IP), virtual private network (VPN), multi protocol label switching (MPLS), and optical Ethernet including fiber, synchronous optical network (SONET), resilience packet ring (RPR), and dense wavelength division multiplexing (DWDM) for a network architecture for a business solution;
  - ~~receive means for inputting~~ options for the network management processes which comprise at least one of: inside plant maintenance, outside plant maintenance, network engineering, network provisioning, installation, testing, and repairs for managing the network architecture for the business solution; and
  - ~~receive means for inputting~~ options for the service and customer management processes which comprise at least one of: customer relationship management (CRM), work order management (WOM), network inventory management (NIM), service activation and provisioning (SAP), fault management (FM), performance management (PM), accounting and billing, and security management for managing the network architecture for the business solution.
4. (currently amended) The ~~[[tool]]~~ computer program product as described in claim 1, wherein the ~~means instructions~~ (g) comprises comprise instructions for causing the computer to:

- 5                   - ~~compute means for computing~~ the business parameters for the business solutions over a pre-determined study period; and
- ~~determine means for determining~~ business parameters which comprise at least one of: capital expenditure (CAPEX), wherein the CAPEX comprises a network architecture cost, taxes, interests, and depreciation and amortization (D/A) expenses; operational expenditure (OPEX), wherein the OPEX comprises a management processes cost, a leasing cost, and sales, general and administration (SG&A); revenue; capacity; return on investment (ROI); earnings before interest, taxes, and depreciation and amortization (EBITDA); earnings before interest and taxes (EBIT); the OPEX as percentage of the revenue; and total expenditure as percentage of the revenue, wherein the total expenditure comprises the CAPEX and the OPEX.
- 10                   5. (currently amended) The [[tool]] computer program product as described in claim 3, wherein the ~~means instructions~~ (b) comprise instructions for causing the computer to engineer ~~comprises means for engineering~~ the network architecture for the business solution.
- 15                   6. (currently amended) The [[tool]] computer program product as described in claim 3, wherein the ~~means instructions~~ (d) comprise instructions for causing the computer to engineer ~~comprises means for engineering~~ the network management processes and the service and customer management processes for managing the network architecture for the business solution.
- 20                   7. (currently amended) The [[tool]] computer program product as described in claim 4, wherein the ~~means instructions~~ (h) comprise instructions for causing the computer to display ~~comprises means for displaying~~ the business parameters in tables and graphical charts for the business solutions over the pre-determined study period.
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8. (currently amended) The ~~[[tool]]~~ computer program product as described in claim 5, wherein the ~~means instructions~~ (c) comprise instructions for causing the computer to determine ~~comprises means for determining~~ a network architecture cost and a leasing cost for the network architecture for the business solution.
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9. (currently amended) The ~~[[tool]]~~ computer program product as described in claim 8, wherein the ~~means instructions~~ (f) comprise instructions for causing the computer to validate and calibrate ~~comprises means for validating and calibrating~~ the data and options; the network architecture cost; and the leasing cost for said network architecture for the business solution.
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10. (currently amended) The ~~[[tool]]~~ computer program product as described in claim 8, wherein the ~~means instructions~~ (b) further comprise instructions for causing the computer to determine ~~comprising means for determining~~ an owned network elements (NEs) count; a leased NEs count; an owned customer premise equipment (CPE) count; a leased CPE count; an owned links count; a leased links count; and a leased ports count for said network architecture; and wherein said network architecture ~~having~~ has NEs, CPE, and links from the same or different equipment suppliers.
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11. (currently amended) The ~~[[tool]]~~ computer program product as described in claim 10, wherein the ~~means instructions~~ (c) further comprise instructions for causing the computer to determine ~~comprising means for determining~~ a price per network element (NE), a footprint per NE cost, a power consumption per NE cost; a price per CPE, a footprint per CPE cost, and a power consumption per CPE cost; and a price per link and a link transmission rate.
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12. (currently amended) The ~~[[tool]]~~ computer program product as described in claim 11, wherein the ~~means instructions~~ for determining the network architecture cost comprise instructions for causing the computer to compute ~~comprises a means for computing~~ a total owned NEs cost; a total owned CPE cost; and a total owned links cost for said network architecture for the business

solution; and wherein the ~~means~~ instructions for determining the leasing cost comprise instructions for causing the computer to compute ~~comprises a means for computing~~ a total footprints cost and a total power consumptions cost for said owned NEs and CPE.

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13. (currently amended) The ~~[[tool]]~~ computer program product as described in claim 10, wherein the ~~means~~ instructions (c) further comprise instructions for causing the computer to determine ~~comprising means for determining~~ a leased per NE cost, a footprint per NE cost, and a power consumption per NE cost; a leased per CPE cost, a footprint per CPE cost, and a power consumption per CPE cost; a leased per link cost; a leased link per unit length cost, a unit length per link count, and a link transmission rate; and a leased per port cost.

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14. (currently amended) The ~~[[tool]]~~ computer program product as described in claim 13, wherein the ~~means~~ instructions for determining the leasing cost comprise instructions for causing the computer to compute ~~comprises a means for computing~~ a total leased NEs cost; a total leased CPE cost; a total footprints cost and a total power consumptions cost for said leased NEs and CPE; a total leased links cost; a total leased links per unit length cost; and a total leased ports cost for said network architecture for the business solution.

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15. (currently amended) The ~~[[tool]]~~ computer program product as described in claim 6, wherein the ~~means~~ instructions (c) ~~comprises~~ comprise instructions for causing the computer to:

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- ~~determine means for determining~~ a network management processes cost, wherein the ~~means for determining the~~ network management processes cost comprises ~~means for determining~~ costs for inside plant maintenance, outside plant maintenance, network engineering, network provisioning, installation, testing, and repairs for each network element in the network architecture for the business solution;
- ~~determine means for determining~~ a service and customer management processes cost, wherein the ~~means for determining the~~ service and

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customer management processes cost comprises ~~means for determining~~  
costs for customer relationship management (CRM), work order  
management (WOM), network inventory management (NIM), service  
activation and provisioning (SAP), fault management (FM), performance  
management (PM), accounting and billing, and security management for  
each link in the network architecture for the business solution; and  
- ~~determine means for determining~~ a management processes cost which  
comprises the network management processes cost and the service and  
customer management processes cost ~~means~~.

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16. (currently amended) The [[tool]] computer program product as described in  
claim 15, wherein the ~~means~~ instructions for engineering the network  
management processes comprise instructions for causing the computer to  
engineer ~~comprises a means for engineering~~ at least one of the following  
processes: inside plant maintenance; outside plant maintenance; network  
engineering; network provisioning; installation; testing; and repairs.

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17. (currently amended) The [[tool]] computer program product as described in  
claim 16, further comprises instructions for causing the computer to determine  
~~comprising means for determining~~ the network management processes cost for  
said network management processes for at least one of: a manual operations  
mode; a mechanized operations mode; and a manual and mechanized operations  
mode.

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18. (currently amended) The [[tool]] computer program product as described in  
claim 15, wherein the ~~means~~ instructions for engineering the service and  
customer management processes comprise instructions for causing the computer  
to engineer ~~comprises a means for engineering~~ at least one of the following  
processes: customer relationship management (CRM); work order management  
(WOM); network inventory management (NIM); service activation and  
provisioning (SAP); fault management (FM); performance management (PM);  
accounting and billing; and security management.

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19. (currently amended) The ~~[[tool]]~~ computer program product as described in claim 18, further ~~comprises instructions for causing the computer to determine~~  
5 ~~comprising means for determining~~ costs of the customer relationship management (CRM); the work order management (WOM); the network inventory management (NIM); the service activation and provisioning (SAP); the fault management (FM); the performance management (PM); the accounting and billing; and the security management for at least one of: a manual operations mode; a mechanized operations mode; and a manual and mechanized operations mode.  
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20. (canceled)
21. (currently amended) The ~~[[tool]]~~ computer program product as described in claim 19, wherein the ~~means~~ instructions for determining the cost of the  
15 customer relationship management (CRM) ~~comprise instructions for causing the computer to determine~~ ~~comprises means for determining~~ costs for at least one of: a work order entry and validation process; a service delivery and work order processing process; a customer care process; a trouble ticketing process; and a service assurance and performance reporting process.  
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22. (currently amended) The ~~[[tool]]~~ computer program product as described in claim 19, wherein the ~~means~~ instructions for determining the cost of the work order management (WOM) ~~comprise instructions for causing the computer to~~  
25 ~~determine~~ ~~comprises means for determining~~ costs for at least one of: a work order processing process; a client management process; a report management process; and an administration management process.
23. (currently amended) The ~~[[tool]]~~ computer program product as described in claim 19, wherein the ~~means~~ instructions for determining the cost of the network  
30 inventory management (NIM) ~~comprise instructions for causing the computer to~~ ~~determine~~ ~~comprises means for determining~~ costs for at least one of: a customer,

services, and resources association management process; an equipment management process; and a network management process.

24. (currently amended) The ~~[[tool]]~~ computer program product as described in claim 19, wherein the ~~means~~ instructions for determining the cost of the service activation and provisioning (SAP) comprise instructions for causing the computer to determine ~~comprises means for determining~~ costs for at least one of: a create a new service process; a customer association process; a process for aligning and synchronizing with billing, maintenance, and performance; and a resource discovery and database queries process.
25. (currently amended) The ~~[[tool]]~~ computer program product as described in claim 19, wherein the ~~means~~ instructions for determining the cost of the fault management (FM) comprise instructions for causing the computer to determine ~~comprises means for determining~~ costs for at least one of: a trouble ticketing process; an isolate problem process; and an analysis and resolution for service logic agreement (SLA) process.
26. (currently amended) The ~~[[tool]]~~ computer program product as described in claim 19, wherein the ~~means~~ instructions for determining the cost of the performance management (PM) comprise instructions for causing the computer to determine ~~comprises means for determining~~ costs for at least one of: a collect performance data process; a generate performance reports process; and a validate service logic agreement (SLA) process.
27. (canceled)
28. (canceled)
29. (canceled)
30. (canceled)



31. (currently amended) A method for assessing business solutions comprising alternative network architectures and management processes for a telecommunications network, the method comprising the steps of instructing a computer to:
- (n) ~~receive inputting~~ data and options for plurality of network architectures, network management processes, and service and customer management processes ~~by an analyst;~~
- (m) ~~engineer engineering~~ the plurality of network architectures based on the data and options of (n);
- (u) ~~determine determining~~ suppliers' equipment costs for said plurality of network architectures;
- (v) ~~engineer engineering~~ the network management processes and the service and customer management processes, based on the data and options of (n), for managing said plurality of network architectures;
- (w) ~~determine determining~~ suppliers' management processes costs for the network management processes and the service and customer management processes;
- (x) ~~determine determining~~, based on the costs of the plurality of network architectures and the network management processes and the service and customer management processes, business parameters for the business solutions;
- (y) ~~validate and calibrate validating and calibrating~~ the data and options and the costs for the plurality of network architectures and the network management processes and the service and customer management processes; and
- (z) ~~store and display storing or displaying~~ the business parameters for the business solutions for the telecommunications network.
32. (currently amended) The method as described in claim 31, wherein the step (x) comprises steps of instructing the computer to:

- ~~compute~~ ~~computing~~ the business parameters for the business solutions over a pre-determined study period; and
  - ~~determine~~ ~~determining~~ at least one of the business parameters which comprise: capital expenditure (CAPEX), wherein the CAPEX comprises a network architecture cost, taxes, interests, and depreciation and amortization (D/A) expenses; operational expenditure (OPEX), wherein the OPEX comprises a management processes cost, a leasing cost, and sales, general and administration (SG&A); revenue; capacity; return on investment (ROI); earnings before interest, taxes, and depreciation and amortization (EBITDA); earnings before interest and taxes (EBIT); the OPEX as percentage of the revenue; and total expenditure as percentage of the revenue, wherein the total expenditure comprises the CAPEX and the OPEX.
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- 15 33. (currently amended) The method as described in claim 31, wherein the step (n) comprises steps of instructing the computer to:
- ~~receive~~ ~~inputting~~ traffic data, customer data, and labor and financial data;
  - ~~receive~~ ~~inputting~~ technology options which comprise at least one of: time division multiplexing (TDM), asynchronous transfer mode (ATM), frame relay (FR), Internet protocol (IP), virtual private network (VPN), multi
  - 20 protocol label switching (MPLS), and optical Ethernet including fiber, synchronous optical network (SONET), resilience packet ring (RPR), and dense wavelength division multiplexing (DWDM) for a network architecture for a business solution;
  - 25 - ~~receive~~ ~~inputting~~ options for the network management processes which comprise at least one of: inside plant maintenance, outside plant maintenance, network engineering, network provisioning, installation, testing, and repairs for managing the network architecture for the business solution; and
  - 30 - ~~receive~~ ~~inputting~~ options for the service and customer management processes which comprise at least one of: customer relationship management (CRM), work order management (WOM), network inventory management

(NIM), service activation and provisioning (SAP), fault management (FM), performance management (PM), accounting and billing, and security management for managing the network architecture for the business solution.

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34. (currently amended) The method as described in claim 33, wherein the step (u) comprises steps of instructing the computer to determine ~~determining~~ a network architecture cost and a leasing cost for the network architecture for the business solution.

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35. (currently amended) The method as described in claim 34, wherein the step (m) comprises steps of instructing the computer to engineer ~~engineering~~ the network architecture for the business solution.

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36. (currently amended) The method as described in claim 33, wherein the step (v) comprises steps of instructing the computer to:

- ~~engineer engineering~~ network management processes which comprise engineering at least one of the following processes: inside plant maintenance, outside plant maintenance, network engineering, network provisioning, installation, testing, and repairs; and
- ~~engineer engineering~~ the service and customer management processes which ~~comprise~~ ~~comprises~~ engineering at least one of the following processes: customer relationship management (CRM), work order management (WOM), network inventory management (NIM), service activation and provisioning (SAP), fault management (FM), performance management (PM), accounting and billing, and security management.

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37. (currently amended) The method as described in claim 36, wherein the step (w) comprises steps of instructing the computer to:

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- ~~determine determining~~ a network management processes cost for the network management processes, which comprises determining costs of inside plant maintenance, outside plant maintenance, network engineering,

- network provisioning, installation, testing, and repairs for each network element in the network architecture for the business solution for at least one of: a manual operations mode, a mechanized operations mode, and a manual and mechanized operations mode;
- 5       - ~~determine~~ ~~determining~~ a service and customer management processes cost for the service and customer management processes, which comprises determining costs of customer relationship management (CRM), work order management (WOM), network inventory management (NIM), service activation and provisioning (SAP), fault management (FM), performance
- 10       management (PM), accounting and billing, and security management for each link in the network architecture for the business solution for at least one of: a manual operations mode, a mechanized operations mode, and a manual and mechanized operations mode; and
- 15       - ~~determine~~ ~~determining~~ a management processes cost ~~comprising which~~ comprises the network management processes cost and the service and customer management processes cost.
38. (currently amended)   The method as described in claim 32, wherein the step (z) comprises ~~steps of instructing the computer to tabulate a step of tabulating~~
- 20       and graphically ~~chart~~ ~~charting~~ the business parameters for said business solutions over said pre-determined study period.
39. (canceled).